



STATE OF MONTANA JOB PROFILE AND EVALUATION

The job profile is a streamlined position description and may serve as the core document for all human resource functions such as recruitment, selection, performance management and career and succession planning. It was developed, initially, for use in classifying positions in Pay Plan 020.

If you are converting a position to Pay Plan 020 and the position has not changed simply cut and paste the information needed from the current position description. The position description contains sections that are no longer used to classify the position, such as: Working Conditions and Physical Demands; Management and Supervision of Others; Supervision Received; Scope and Effect; and Personal Contacts. These may still be important to the position and may be included in **Section IV – Other Important Job Information**.

When working with a new position, classification request or change to a position in Pay Plan 020, complete the information below to provide the required documentation for classification.

SECTION I – Identification

Working Title Early Warning Vehicle Operator		Job Code Number 173212	Job Code Title Civil Engineering Technician
Pay Band 2	Position Number 94069		Check ONE box : X FLSA Exempt <input type="checkbox"/> FLSA Non-Exempt
Department Department of Transportation			Division and Bureau Engineering Division Materials Bureau
Section and Unit Pavement Analysis NDT Data Collection Unit			Work Address and Phone 406 - 444 - 7651
Profile Produced By Jon Watson / Supervisor - PARS John Amestoy / Unit Supervisor - NDTDC Milo Borglum / Materials Lab Specialist - NDTDC		Work Phone 406 - 444 - 7260 406 - 444 - 7651 406 - 444 - 6272	

Work Unit Mission Statement or Functional Description - This section should include a complete statement of the mission or function as it relates to the work unit.

The principal goals of the Materials Bureau of the Department of Transportation are to develop and implement a comprehensive data collection, testing, and analysis programs that facilitate pavement project selection and pavement surface and subsurface design that addresses Montana's most important statewide transportation needs, and to support the quality of materials incorporated into Montana's highway system. These activities help officials select projects and provide information for short and long-range engineering and construction programs. These goals are addressed through the complex interaction and interrelationship of the Bureau's three Sections.

The Bureau consists of the Geotechnical Section, Physical Testing Section, and Pavement Analysis.

The Pavement Analysis is responsible for gathering, compiling, and analyzing transportation data in a competent, precise and purposeful manner and for providing suitable and cost-effective pavement designs. A central element of the Section's function is to provide service to its internal and external clients in the form of pavement analysis products.

These products range from detailed management section treatment reports to university research, and characterize a broad range of topics and disciplines. The Section develops, maintains, and administers complex, comprehensive data collection and engineering analysis programs. The Section maintains comprehensive condition, deflection, and historical and materials databases used in highway design, highway maintenance, transportation planning, safety, federal certification. Analysis performed within the Section directly impacts the allocation and distribution of maintenance funds and maintains and administer the Pavement Management System, AASHTO Pavement Design, Non-Destructive Testing Program, Local Transportation Assistance Program, Long Term Pavement Performance Program, and the Material Information System, as well as several elements of the MDT Project Management System. The Section is also responsible for providing information and analysis to external customers such as the Federal Highway Administration, Forest Service, Park Service and local governments in the areas of pavement design, pavement management and research. The Section evaluates special studies and plans and provides analysis for executive management for complex and potentially controversial decisions regarding project selection, surfacing design.

The Section is comprised of three units: Project Engineering, Non-Destructive Testing Data Collection, and Pavement Condition Data Collection.

Describe the Job's Overall Purpose:

This position is responsible for Work Zone Safety, Field Sampling Assistance, Equipment Maintenance, Calibration Assistance, and Office Work for the Non-Destructive Testing Data Collection Unit (NDTDCU). Duties include monitoring field sampling and calibration procedures, administering work zone safety procedures, and administering testing documentation. The position reports to the lead worker supervisor and Unit supervisor.

SECTION II - Major Duties or Responsibilities

% Of Time

This section should be a clear concise statement of the position's duties. Well written thorough task/duty statements are required here to accurately evaluate the position.

1. What are the major duties or responsibilities assigned to this position? What are the specific tasks involved in accomplishing those duties. Group duties in order of importance and estimate the percent of time needed to perform each duty (estimates are not required for individual tasks). **NOTE:** Because you are identifying **major** duties, usually 3-5, the quantity of time probably will not be less than **20%**. If a duty is essential but not performed routinely you should list it. For example, lobbying during the legislative session may not take up a large percent of total work time, but can be an essential duty.

A. Work Zone Safety

Set-up and monitor a variety of work zone configurations to meet Federal & State uniform standards. This involves assisting with the proper placement of traffic control equipment, the monitoring of equipment to assure proper functioning, and constant awareness of traffic flow through and around the work zone. This work requires the knowledge of the U.S. Department of Transportation Federal Highway Administration's Standards and Guides Manual on Uniform Traffic Control Devices, Montana Department of Transportation's Flagger's Handbook, and the Montana Department of Transportation's Guidelines for Work Zone Safety. This work requires skill in operating programmable message boards and two-way radio equipment, and extensive, weekly, overnight travel.

1. Assist in the planning and implementation of work zones to ensure the safety of all the workers involved as well as the traveling public by reviewing, interpreting, and applying work zone safety procedures to site-specific circumstances using signs, cones, message boards, arrow boards, stop/slow paddles, and two-way radios.

50%

2. Monitor traffic constantly to determine the effectiveness of the work zone by examining the speed of the traffic and how far in advance of the work zones the traffic conforms to regulated speeds and lane changes and by maintaining a continuous flow of traffic through the work zone.

3. Identify & Implement alternative flagging procedures to provide more than one solution to various flagging scenarios by researching and complying with the U.S. DOT Federal Highway Administration's standards and guides manual on Uniform Traffic Control Devices and the MT DOT's Flagger's Handbook and Guidelines for Work Zone Safety manual in conjunction with observation of traffic flow and roadway configuration.

4. Provide mobile traffic control for the deflection - testing equipment to ensure the safety of all workers involved as well as the traveling public by working in conjunction with a shadow vehicle operator, through the use of two-way radios, and the equipment operator; by operating a programmable message board to control traffic flow.

5. Weekly and daily training, with the assistance of fellow employees and supervisors, in order to better understand their duties and the duties of fellow employees and to meet federal and state standards & guidelines by instruction and review of personal experience, handbooks, and manuals.

B. Field Sampling

Assist in the sampling of plant mix cores and Dynamic Cone Penetrometer (DCP) testing. Knowledge and experience in proper traffic control and flagging procedures.

15%

1. Assist in the implement of proper field sampling protocol to ensure sample validity and testing ability by following established sampling protocols that direct the amount of sample needed as well as how the sample should be taken, stored, handled, and catalogued.

2. Assist in the operation of a core-drilling machine to acquire various plant mix samples associated with project-level deflection testing by following proper operation and sampling protocol.

3. Assist in the operation the Dynamic Cone Penetrometer, in the field, to establish a correlation between R-Value and the DCP by performing the DCP on a large amount of different soils types where the R-Value is known, then assisting in entering all the data into a database so a correlation can be researched.

4. Implement traffic control equipment for work zones to ensure the safety of the workers as well as the traveling public by knowledge, interpretation, and application of work zone safety procedures to site-specific circumstances, using signs, cones, message boards, arrow boards, stop/slow paddles, and two-way radios.

C. Equipment Maintenance

Mechanical and electrical maintenance and inspections of flagging, deflection testing, and core-drill vehicles & equipment on a daily, weekly, and monthly basis. Knowledge of basic mechanical maintenance and repair is needed.

15%

1. Maintain traffic control, deflection testing, and core-drill vehicles/equipment in proper working condition to ensure proper operation by utilizing the Montana DOT's steam pressure washer weekly; removal of dirt, grease, etc. weekly; keeping windows & mirrors clean daily; daily visual fluid level inspections; daily inspections of tire/air bladder pressures utilizing a pressure gauge; weekly monitoring of vehicle/equipment mileage for operator usage reports and PM compliance.

D. Calibration Assistance

Assists lead worker supervisor in weekly and monthly calibrations of deflection-testing equipment to maintain equipment in line with national standards. Knowledge in basic mechanics is needed.

<p>1. Assists in the calibration of the deflection-testing equipment to ensure equipment is running at peak efficiency and meets conditions of national standards by properly positioning vehicle & equipment onto a calibration pad, removing and aligning sensors for correct procedural specifications, monitoring equipment & pad during and between calibrations on a weekly and monthly basis.</p>	10%
<p>E. <u>Office Work</u></p> <p>Assists Unit Supervisor and lead worker supervisor in all duties associated with the office. Knowledge of filing procedures, research procedures, and computer knowledge and experience are required to perform these duties along with the ability to follow instructions and complete duties with minimal or no supervision.</p>	
<p>1. Enters data specific to the Non - Destructive Testing Data Collection Unit to ensure the most accurate and current collection data, research, and industry standards records are updated by acquiring NDT collection data, surfacing-design files, soil surveys, industry publications, and website information then updating NDT programs and files.</p>	5%
<p>F. <u>Other duties as assigned</u></p> <p>Performs a variety of tasks in support of Unit and Bureau needs as assigned by the Area, Unit, or lead worker supervisor. This includes assisting other MDT programs on special projects, providing or being provided training and guidance, attending training and education sessions as required, purchasing of needed Unit materials, and drop-off/pick-up of needed Unit materials.</p> <p>1. Assist other MDT Bureau Units to meet workload when said Unit is understaffed for unforeseen reasons by following Unit Supervisors instructions.</p> <p>2. Assessing materials and equipment needs to ensure the smooth continuation of workload and avoid downtime by a routine check of all equipment and materials needed to perform required duties and informing Unit Supervisor of deficiencies and then purchasing and or pick-up of needed materials.</p>	5%
<p>2. Give specific examples of the types of problems solved, decisions made or procedures followed when performing the most frequent duties.</p>	
<p>This position must make field alterations to flagging configurations due to traffic flow, roadway layout, and/or weather conditions while maintaining compliance with federal & state traffic control standards; must make split-second decisions regarding employee and traffic safety while in a moving, testing operation.</p>	
<p>3. What do you consider the most complicated part of the job?</p> <p>Constant awareness of the traffic flow & conditions surrounding the testing operation, knowing what to do when a situation arises and being able to correct the situation within seconds.</p>	
<p>4. What laws, regulations, guidelines, manuals or other written established procedures are available to the incumbent?</p> <p>Federal, state, AASHTO, FHWA, and SHRP standards; project specifications & design files; MT DOT Guidelines for Work Zone Safety manual; MT DOT Flagger's Handbook; US DOT Federal Highway Administration's Standards and Guides for Traffic Control manual; the Montana Materials Manual.</p>	
<p>5. Which of the duties and/or specific tasks listed under 1. (above) are considered "essential functions" which must be performed by this position (with or without accommodations)? (If you need information or training on the identification of essential functions, please contact MDT Human Resources Division.)</p> <p>Overnight travel on a weekly basis. Valid, current Montana Driver's License.</p>	

6. If this position supervises other positions, complete the following information.

The number of FTE employees directly supervised is N/A.

List the complexity levels/pay bands of each those subordinates N/A.

Please list the Position Numbers for those directly supervised N/A.

Is this position responsible for (please check ONLY those boxes which apply to the position and for which the position has "signatory" authority.)

- ☐ Hiring ☐ Layoffs/termination of temporary or seasonal workers
☐ Performance Management (conducting and signing performance appraisals as the direct supervisor or the reviewing manager) ☐ Promotions
☐ Direct /Line Supervision ☐ Lead worker ☐ Discipline
☐ Other:

7. Please attach an up-to-date Organizational Chart (or copy from a Power Point document into space below).

Update organizational chart available in Human Resources-08/06/08

SECTION III - Minimum Qualifications - List the minimum requirements for **first day** of work. (These will be the minimum qualifications utilized for **recruitment and performance management purposes**; this information is not used for classification purposes.)

Please list the main knowledge and skill areas required for the job:

Vehicle Maintenance skills.

What behaviors are required to perform the duties? **NOTE:** Identifying behaviors used for recruitment and selection and other HR functions are part of building a competency model (see **Creating Competency Models** in Guide). A position description will provide helpful information if a model has not been developed. Often "abilities" from the current PD can be stated as desired and observable behaviors. For example, "the ability to communicate clearly in writing," can be restated "writes clearly and concisely".

Writes and speaks clearly and concisely.

Follows oral instruction and procedures well.

Education and experience: Please indicate the **minimum educational** requirements for this job, as it relates to a new employee on the **first day** of work (not the educational background of the person now in the position), the specific fields of study that are acceptable, and whether a Master's degree (in which fields) will substitute for any of the required job related experience.

Other training (e.g., software, specific machinery, etc.), certification (e.g., CPA, Professional Engineer, etc.), or licensing (e.g., commercial driver's, pilot, psychologist, etc.) required (please specify):

Current Valid Montana Drivers License

Please indicate the minimum, amount of **job-related work experience** needed as a new employee on the first day of work (not the experience of the person now in the position). Please indicate the specific types of experience that will be considered job-related.

☐ This agency will accept alternative methods of obtaining necessary qualifications.

For recruiting purposes please list specific examples of acceptable alternative methods of obtaining those qualifications. **These examples will appear on a vacancy announcement.**

SECTION IV – Other Important Job Information

List any other important information associated with this position, such as working conditions or other factors which are deemed critical or non-negotiable to the position and which will need to be included on the vacancy announcement or other recruitment documents. (This information will be NOT be used for classification purposes.) For example: The position is required to travel throughout the state in excess of 12,000 miles per year and to perform duties on active construction sites in proximity to heavy equipment, hot asphalt, and high speed traffic, requiring use of hard hats and specialized safety training. OR, This position is not subject to alternative work schedules or working from home as it is required to answer the phone and receive visitors for the agency between the hours of 8am to 5pm, Monday through Friday.

This position requires extensive, overnight travel throughout the state of Montana, possibly in excess of 25,000 miles per year. Perform duties in high-speed traffic flow. Requires the use of hardhat and safety vest. This position is subject to alternative work schedules - weekly, overnight travel / weekend work / overtime / nighttime work.

SECTION V – Signatures

My signature below indicates the statements in Section I to IV are accurate and complete.

Employee:		
Signature:	Title:	Date:
Immediate Supervisor:		
Signature:	Title:	Date:
Name:		
Signature:	Title:	Date:
Division/District Administrator:		
Signature:	Title:	Date:
Departmental Designee:	Chief, Employee Relations Bureau, Human Resources Division	
Signature:	Title:	Date:

Recruitment Review: My signature below attests to my review of and determination that the minimum qualifications (education and experience) listed in this profile meet the established recruitment standards of MDT.

Signature:

Date:

Name:

Title: Human Resource Specialist (District/Helena)
Montana Department of Transportation

Upon completion of this section the preparer, district human resource specialist, or other signing authority should forward the signed hard copy and the electronic copy of this job profile (JP), along with an Agency Classification Request (ACR) and an up-to-date Organizational Chart (if not included in the body of the JP) to the Chief of the Employee Relations Bureau, Human Resources Division, MDT in Helena. The electronic copy naming convention for JPs sent by the District or from Helena supervisors to Human Resources in Helena should be: (Position#)JP-MDT.doc (e.g., 34015JP-MDT.doc). r).